

Work Order ID 136433

136433

Page 1

Wednesday, September 02, 2015 3:23:18 PM

Item ID: D5149-041W Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Fwd Step Base Assembly Weldment
Start Date: 9/1/2015 Start Qty: 8.00 ***8*** Cust Item ID:
Required Date: 9/1/2015 Req'd Qty: 8.00 ***8*** Customer:
Reference:

Approvals: Process Plan: MUS Date: SEP 03 2015 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D5149	C

110 Weld per dwg A/R Aluminum rod Batch: 129449 0.00
110
Large Fab Memo 0.00
Large Fab USE DT10134 WELDING FIXTURE TO WELD D5149-041

120 QC9- Inspect visual per QSI004- Fusion Welds 0.00
120
QC Memo 0.00
Quality Control

130 QC5- Inspect part completeness to step on W/O 0.00
130
QC Memo 0.00
Quality Control

DAS
9
9-89
P.T.O.

15-10-20
JR

①① 15-10-21

② 15-10-21

DQA:

Date: 15/11/23



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: ~~15/11/02~~

Date: 15/11/02

Work Order update only ☐

Work Order: <u>136433</u> Part No. <u>DS119-0416</u> NCR No. <u>15-5416</u>		DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☒</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☒	Composite ☐	Supplier ☐																																															
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Date: <u>15-10-21</u>		Step #: <u>110</u>		QTY Effective: <u>①</u>		MRB (QSI042) Approval DAS 9 9-89 <u>15-10-21</u>																																																																	
Description Work Order Deviation				Disposition																																																																			
Found at inspection that angle is 92° and should be 95° R.C. tooling. part move during welding.				Scrap destroy & no replace																																																																			
								Completed By <u>RL</u> 15-10-21																																																															
								Lead hand / Supervisor Approval Verification <u>EL</u> 15-10-21																																																															
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 Item Name: Fwd Step Base Assembly Weldment
 Start Date: 9/1/2015 Start Qty: 8.00 ***8*** Cust Item ID:
 Required Date: 9/1/2015 Req'd Qty: 8.00 ***8*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Chemical Conversion Coat per QSI005 4.1	0.00				7	0	15-10-21	<i>[Signature]</i>
140	HandFinish	0.00							
	Memo								
Hand Finishing									
150	QC7-Inspect Chemical Conversion Coat	0.00				7	0	15-10-22	DAS 34 9:09
150	QC	0.00							
	Memo								
Quality Control									
160	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00				7	0	15-10-22	DAS 34 9:09
160	Powdercoat	0.00							
	Memo								
Powder Coating									
	START TIME: 8:25								
	OVEN TEMPERATURE: 320°								
	FINISH TIME: 8:55								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause				FAULT CATEGORY																					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																				
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Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____																							
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Work Order ID 136433

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Wednesday, September 02, 2015 3:23:18 PM

Item ID: D5149-041W Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd Step Base Assembly Weldment
 Start Date: 9/1/2015 Start Qty: 8.00 ***8*** Cust Item ID:
 Required Date: 9/1/2015 Req'd Qty: 8.00 ***8*** Customer:
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	QC3- Inspect Part Finish	0.00							
170									
QC	Memo	0.00							
Quality Control									
180	Wing Walk as per dwg QSI005 4.4 Batch <u>1133055</u>	0.00							
180									
HandFinish	Memo	0.00							
Hand Finishing									
190	QC3- Inspect Part Finish	0.00							
190									
QC	Memo	0.00							
Quality Control									

DAS
15
9-89

DAS
30
9-89

OCT 22 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
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Work Order ID 136433

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Wednesday, September 02, 2015 3:23:18 PM

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	Identify as per dwg & Stock Location: <u>CA</u>	0.00							
200					DAS	7			OCT 22 2015
Packaging	Memo	0.00			30				
Packaging	LOCATION : GA				9-89				
210	QC21- Final Inspection - Work Order Release	0.00							
210									
QC	Memo	0.00							
Quality Control									

ML5 OCT 23 2015

SH 20151023

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
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Misidentified ☐	Past Due ☐								

Picklist Print

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Work Order ID: 136433

136433

Parent Item: D5149-041W

D5149-041W

Parent Item Name: Fwd Step Base Assembly Weldment

Start Date: 9/1/2015

Required Date: 9/1/2015

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP REV:A 14.12.15 NEW ISSUE DD VERF;JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D5149-1		Manufactured	No				Each	18.0000		8			
D5149-1									**			15-10-20	JBL
Fwd Step Base													
				<u>Location</u>				<u>Loc Qty</u>	<u>Loc Code</u>				
				prelim				2					
				127196				2					
				WA004	136499			16		8			
				131336				3					
				131805				13					
D5149-3		Manufactured	No				Each	17.0000		8			
D5149-3									**			15-10-20	JBL
Fwd Step													
				<u>Location</u>				<u>Loc Qty</u>	<u>Loc Code</u>				
				prelim				5					
				124089				3					
				127198				2					
				WA002	136718			12		8			
				131980				12					
D5149-5		Manufactured	No				Each	27.0000		8			
D5149-5									**			15-10-20	JBL
Step Cap													
				<u>Location</u>				<u>Loc Qty</u>	<u>Loc Code</u>				
				prelim				3					
				124088				3					
				WA001				24					
				129795				6					
				131788				18		8			

* ~~124088~~ 8 Caps in bag →
Computer Shown 6 instead of 8.?!?!
12

DQA: _____ Date: _____



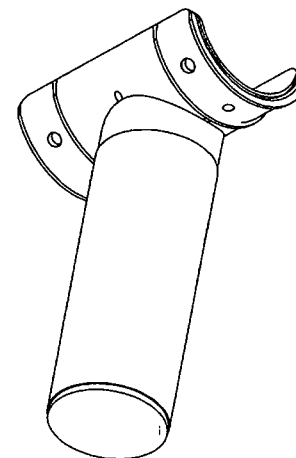
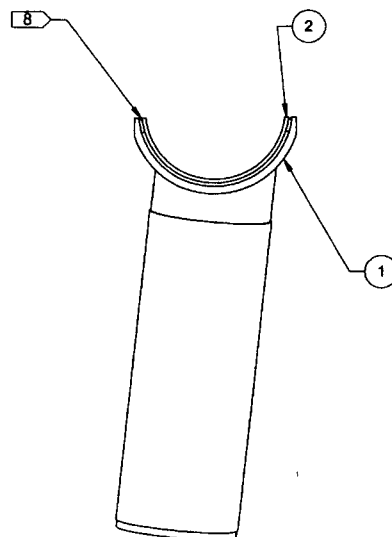
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

ITEM	QTY -041	P/N	DESCRIPTION
	X	D5149-041	FWD STEP ASSEMBLY
1	1	D5149-041W	FWD STEP BASE WELDMENT
2	1	D5151-1	CLAMP CUSHION



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 INDEXED
 SERIALIZED
 FILED
 MAR 10 2015
 FBI - NEW YORK
 136Y33MCS
 150903

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 2015 MAY 12
 A.R. ECUIS-570

D5149-041 FWD STEP ASSEMBLY

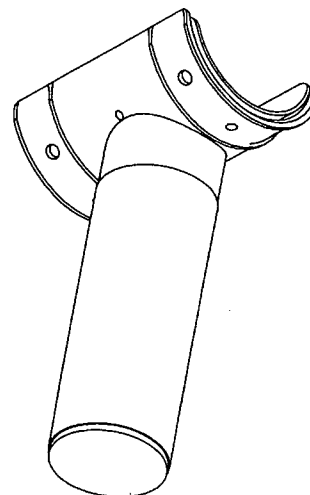
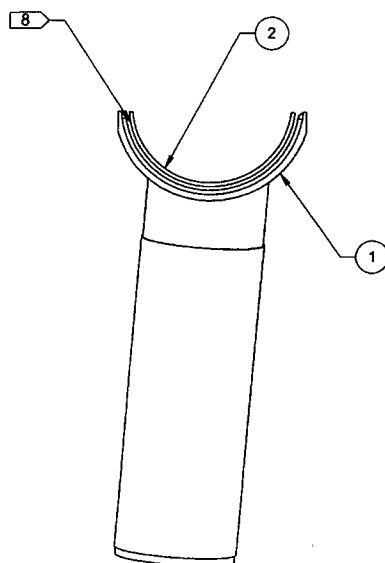
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.69 lbs
- 8) BOND D5151-1 CUSHION TO D5149-041W BASE WELDMENT USING 3M 1300L ADHESIVE

C	ANTISKID FINISH DIM MODIFIED DUE TO INTERFERENCE WITH WELD (SHT 3 & 4)	AP	15.04.27
B	COMPLETE RE-DESIGN, SEE PREVIOUS REV FOR DETAILS	DB	15.01.14
A	NEW ISSUE	DB	14.10.25
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D5149	SHEET 1 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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APPROVED

ITEM	QTY -043	P/N	DESCRIPTION
	X	D5149-043	AFT STEP ASSEMBLY
1	1	D5149-043W	AFT STEP BASE WELDMENT
2	1	D5151-3	CLAMP CUSHION



D5149-043 AFT STEP ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.87 lbs
- 8) BOND D5151-3 CUSHION TO D5149-043W BASE WELDMENT USING 3M 1300L ADHESIVE

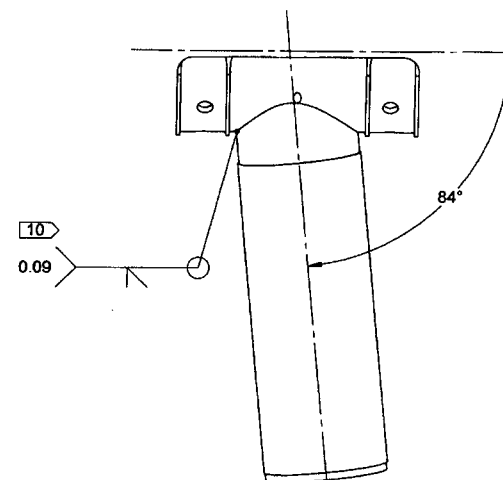
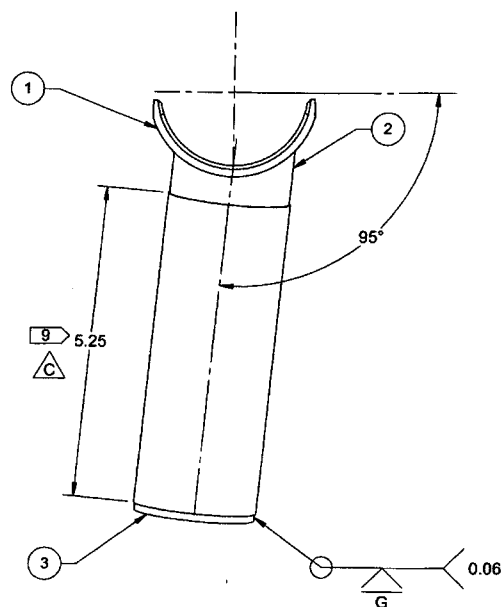
APPROVED

DESIGN	DB	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D5149	SHEET 2 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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2015 MAY 12
A.P. Ecn 15-570

ITEM	QTY. 041W	P/N	DESCRIPTION
	X	D5149-041W	FWD STEP BASE WELDMENT
1	1	D5149-1	FWD STEP BASE
2	1	D5149-3	FWD STEP
3	1	D5149-5	STEP CAP



D5149-041W FWD STEP BASE WELDMENT

RELEASED

2015 MAY 12

A.P. EEN LS-570

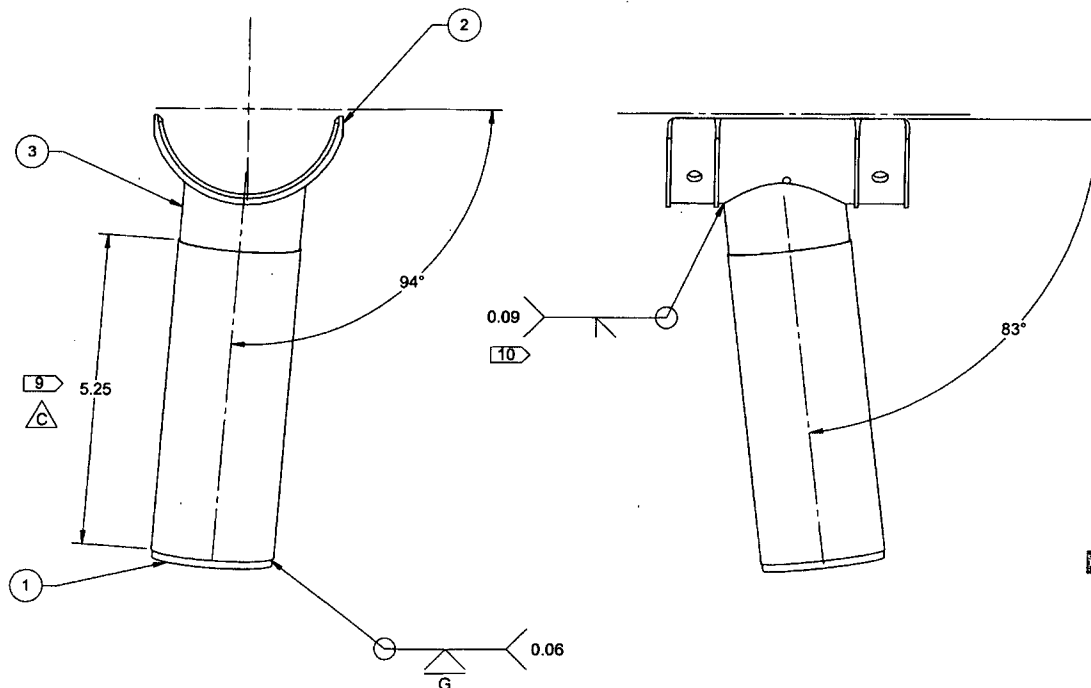
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.67 lbs
- 8) WELDING PER DART QSI 004
- 9) APPLY BLACK ANTI-SKID PAINT TO STEP TUBE, ALL AROUND PER DART QSI 005 4.4
- 10) ALIGN D5149-3 FWD STEP WITH EDGE OF ALIGNMENT HOLES IN D5149-1 FWD STEP BASE PRIOR TO WELDING

APPROVED

DESIGN	DB	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D5149	SHEET 3 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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ITEM	QTY- 043W	P/N	DESCRIPTION
	X	D5149-043W	AFT STEP BASE WELDMENT
1	1	D5149-5	STEP CAP
2	1	D5149-7	AFT STEP BASE
3	1	D5149-9	AFT STEP



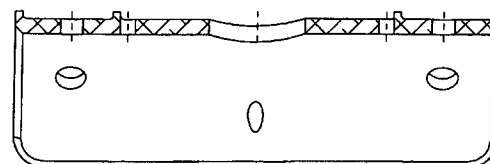
RELEASED
2015 MAY 12
A.P. EGN 15-570

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.67 lbs
- 8) WELDING PER DART QSI 004
- 9) APPLY BLACK ANTI-SKID PAINT TO STEP TUBE, ALL AROUND PER DART QSI 005 4.4
- 10) ALIGN D5149-9 AFT STEP WITH EDGE OF ALIGNMENT HOLES IN D5149-7 AFT STEP BASE PRIOR TO WELDING

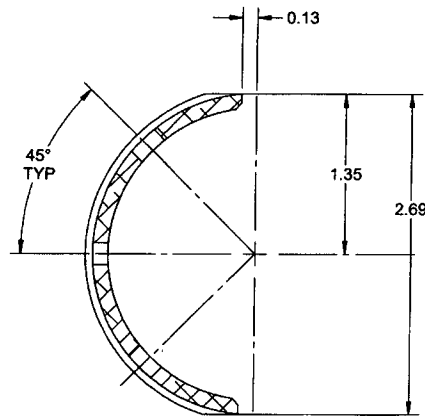
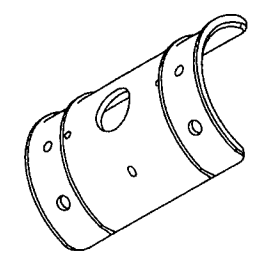
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DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D5149	SHEET 4 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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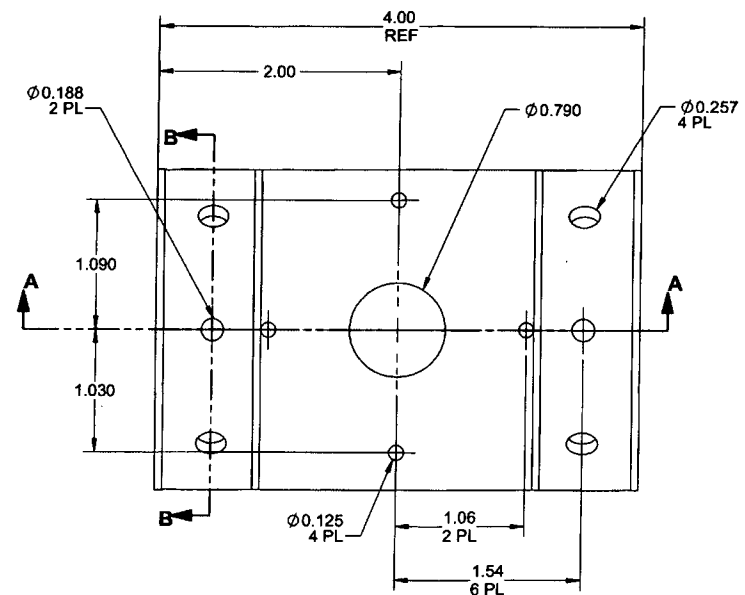


SECTION A-A

0.06 X 45° CMF
ALL AROUND INSIDE EDGE



SECTION B-B



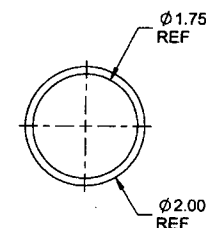
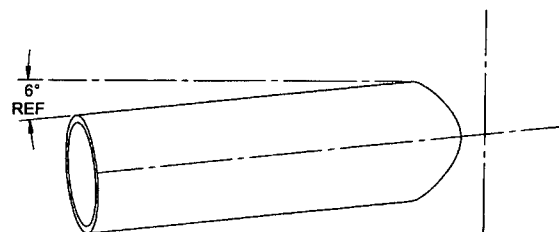
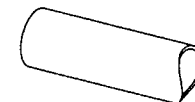
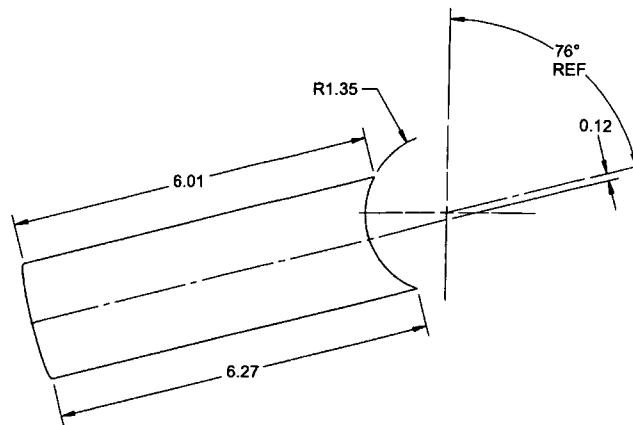
D5149-1 FWD STEP BASE
(MAKE FROM D5149-1TRN)

- NOTES:**
- 1) MATERIAL: MAKE FROM D5149-1TRN
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.20 lbs

RELEASED

2015 MAY 12
A.P. ECU 15-570

APPROVED	DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	DRAWN	AP		
	CHECKED	AJS	DRAWING NO.	REV. C
	MFG. APPR.	DD	D5149	SHEET 5 OF 11
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	STEP ASSEMBLY	NTS
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2015 MAY 12
A.P. ECU 15-520

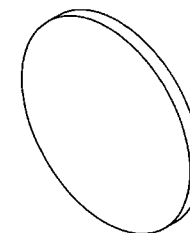
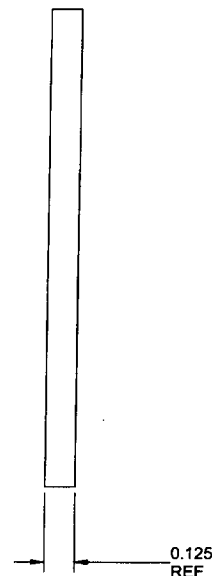
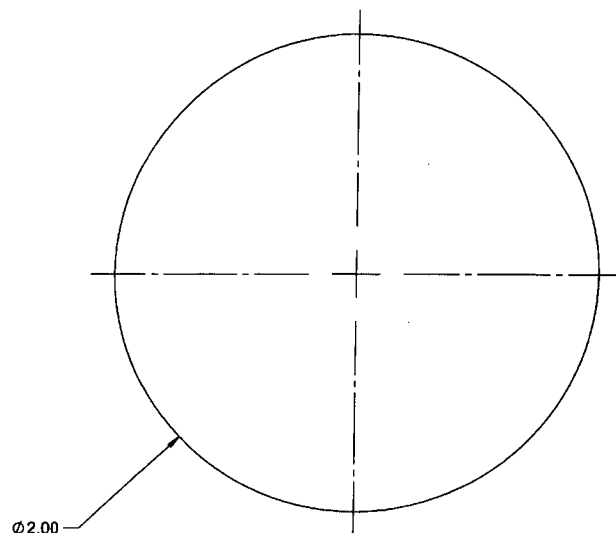
D5149-3 FWD STEP

NOTES:

- 1) MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241
REF DART SPEC M6061T6T2.000W0.125
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.42 lbs

APPROVED

DESIGN	DB	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D5149	SHEET 6 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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D5149-5 STEP CAP

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2015 MAY 12

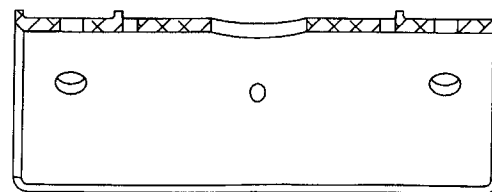
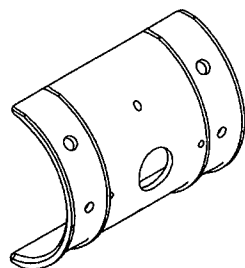
A.P. EFW 15-570

NOTES:

- 1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET, 0.125 THICK
PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209
REF DART SPEC M6061T6S.125
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.04 lbs

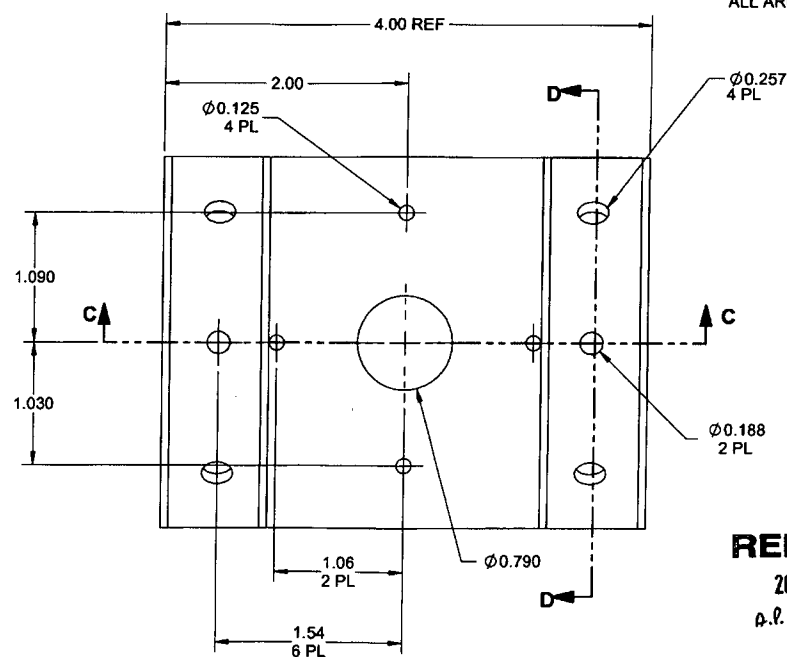
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DESIGN	DB	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D5149	SHEET 7 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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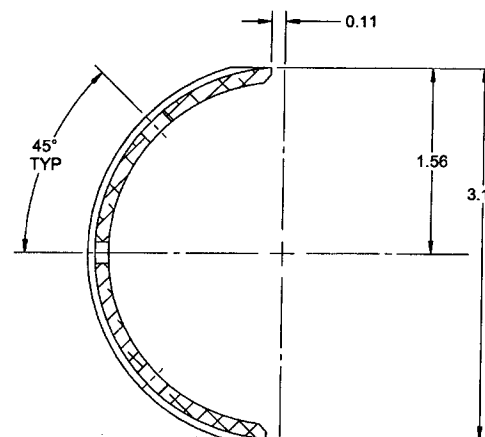


SECTION C-C

0.06 X 45° CMF
ALL AROUND INSIDE EDGE



D5149-7 AFT STEP BASE
(MAKE FROM D5149-7TRN)



SECTION D-D

RELEASED

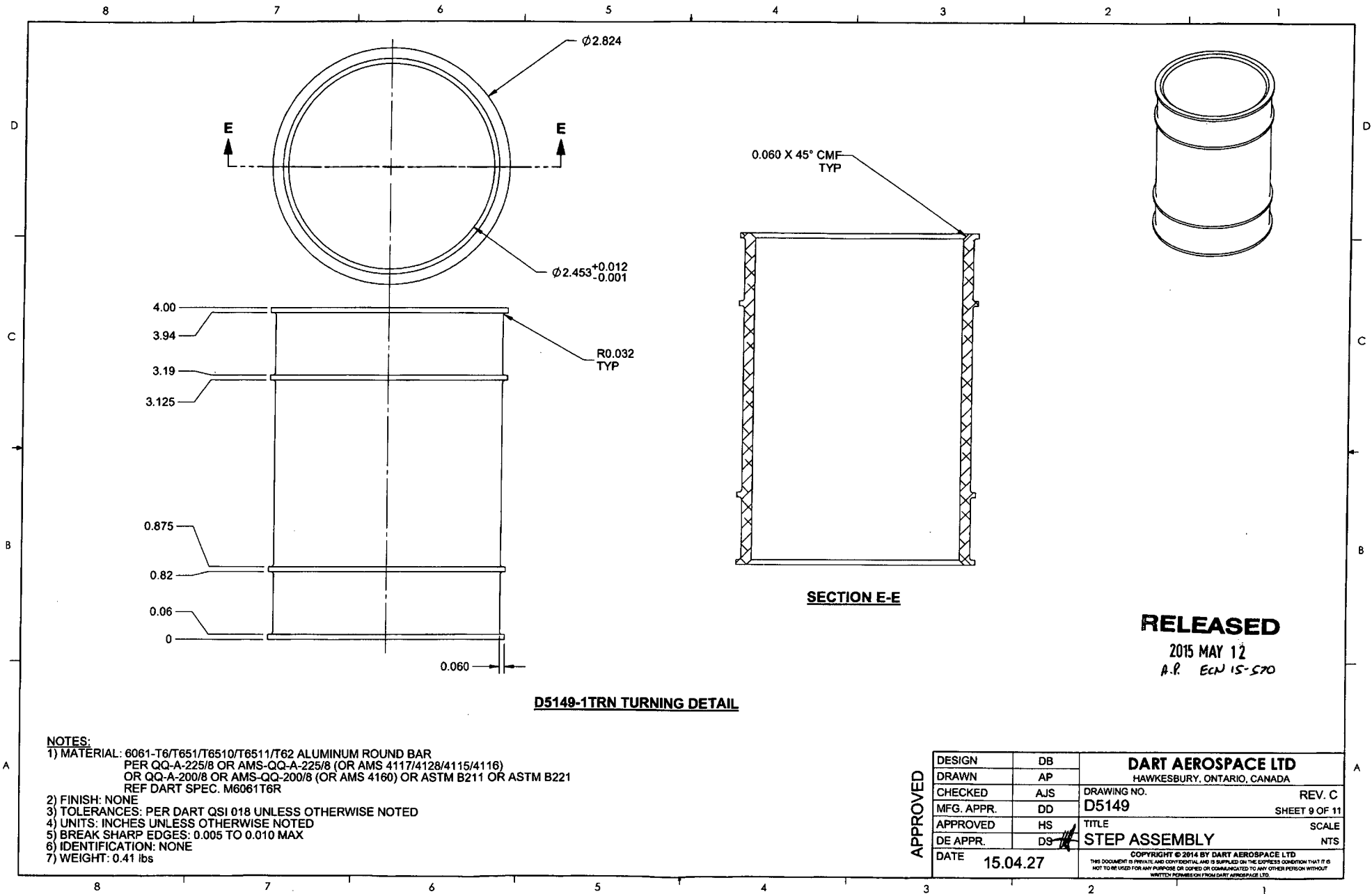
2015 MAY 12
A.P. EEN 15-570

NOTES:

- 1) MATERIAL: MAKE FROM D5149-7TRN
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.30 lbs

APPROVED

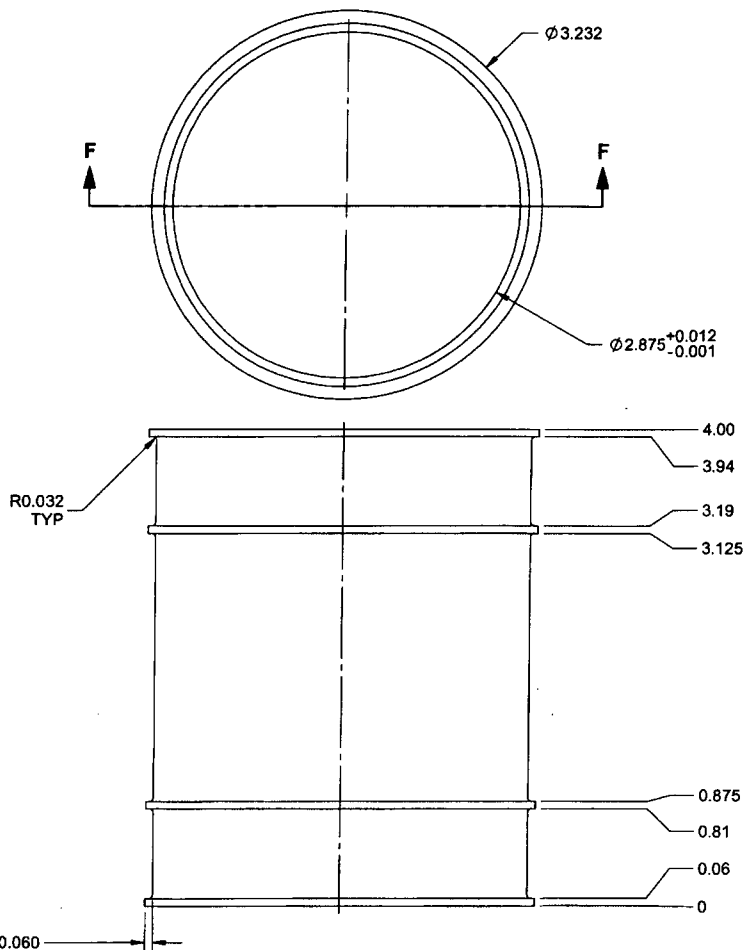
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D5149	SHEET 8 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DSC	STEP ASSEMBLY	NTS
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NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-200/8 (OR AMS 4160) OR ASTM B211 OR ASTM B221
REF DART SPEC. M6061T6R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.41 lbs

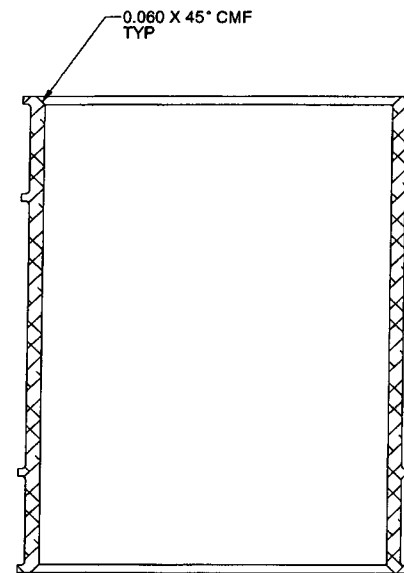
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DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D5149	SHEET 9 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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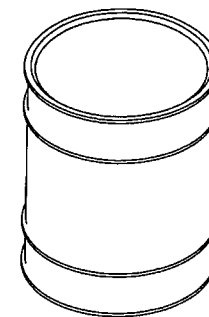
D5149-7 TRN TURNING DETAIL

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-200/8 (OR AMS 4160) OR ASTM B211 OR ASTM B221
REF DART SPEC. M6061T6R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.41 lbs



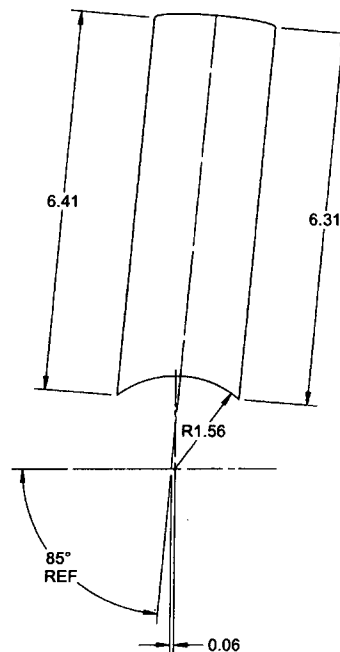
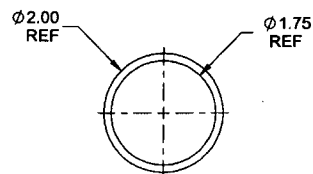
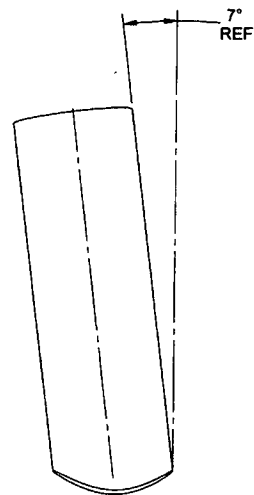
SECTION F-F



RELEASED

2015 MAY 12
A.P. ECN 15-570

DESIGN	DB	DART AEROSPACE LTD	
DRAWN	AP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D5149	SHEET 10 OF 11
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STEP ASSEMBLY	NTS
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D5149-9 AFT STEP

RELEASED

2015 MAY 12

A.P. E24 15-570

NOTES:

- 1) MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241
REF DART SPEC M6061T6T2.000W0.125
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.44 lbs

APPROVED

DESIGN	DB
DRAWN	AP
CHECKED	AJS
MFG. APPR.	DD
APPROVED	HS
DE APPR.	DS

DART AEROSPACE LTD

HAWKESBURY, ONTARIO, CANADA

REV. C

SHEET 11 OF 11

D5149

TITLE

STEP ASSEMBLY

SCALE

NTS

DATE

15.04.27

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